

Inventor: Chan et al.
Application Serial No. 10/601,656
Second Amendment and Response to Restriction Requirement
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AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A modified viral particle comprising at least a partially delipidated viral particle, wherein the partially delipidated viral particle:

initiates a positive immune response in an animal or human;

incites protection against an infectious organism; and

comprises at least one exposed epitope not usually presented to an immune system of the animal or the human by a non-delipidated viral particle.

2. (Previously presented) The modified viral particle of claim 1, wherein the modified viral particle is immunodeficiency virus, hepatitis or pestivirus.

3-27. (Cancelled)

28. (Previously presented) The modified viral particle of claim 2, wherein the immunodeficiency virus is SIV or FIV.

29. (Previously presented) The modified viral particle of claim 2, wherein the immunodeficiency virus is HIV.

30. (Previously presented) The modified viral particle of claim 29, wherein the HIV is HIV-1 or HIV-2.

31. (Previously presented) The modified viral particle of claim 1, wherein the at least one exposed epitope is a gag, p6 gag, gp66, gp41, p27, or env epitope.

32. (Cancelled)

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33. (Previously presented) The modified viral particle of claim 1, wherein the modified viral particle has a lower lipid content in a viral envelope as compared to the non-delipidated particle.

34. (Previously presented) The modified viral particle of claim 1, wherein one or more protein on, in, or near the surface of the partially delipidated viral particle is conformationally changed as compared to one or more protein on, in, or near the surface of the non-delipidated viral particle.

35. (Previously presented) The modified viral particle of claim 1, wherein an antigenic core of the modified viral particle remains intact as compared to the non-delipidated viral particle.

36. (Previously presented) The modified viral particle of claim 1, wherein the modified viral particle retains over 90% of major protein constituents compared to the non-delipidated viral particle.

37. (Previously presented) The modified viral particle of claim 36, wherein the major protein constituents of the modified viral particle comprise gag or env proteins.

38. (Previously presented) The modified viral particle of claim 1, wherein the modified viral particle retains at least one immunoreactive protein.

39. (Previously presented) The modified viral particle of claim 1, wherein the at least one immunoreactive protein is selected from the group consisting of p24, gp41 and gp120.

40. (Previously presented) The modified viral particle of claim 39, wherein the modified viral particle comprises at least one exposed patient specific antigen that was not exposed in the non-delipidated viral particle.

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41. (Previously presented) The modified viral particle of claim 1, wherein the modified viral particle is produced by exposing the non-delipidated viral particle to a delipidation process.

42. (Previously presented) The modified viral particle of claim 41, wherein the delipidation process comprises:

contacting a lipid-containing viral particle in a fluid with a first organic solvent capable of extracting lipid from the lipid-containing viral particle;

mixing the fluid and the first organic solvent for a time sufficient to extract lipid from the lipid-containing viral particle;

permitting organic and aqueous phases to separate; and,

collecting the aqueous phase containing the modified viral particle with reduced lipid content wherein the modified viral particle with reduced lipid content is capable of provoking a positive immune response when administered to the animal or the human.

43. (Previously presented) The modified viral particle of claim 42, wherein the delipidation process further comprises:

contacting the aqueous phase with a de-emulsifying agent capable of removing the first organic solvent; and,

separating the de-emulsifying agent and the removed first organic solvent from the contacted aqueous phase.

44. (Previously presented) The modified viral particle of claim 44, wherein the first organic solvent is an alcohol, an ether, an amine, a hydrocarbon, an ester, a surfactant, or a combination thereof.

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45. (Previously presented) The modified viral particle of claim 44, wherein the ether is C4 to C8 ether and the alcohol is a C1 to C8 alcohol.

46. (Previously presented) The modified viral particle of claim 43, wherein the de-emulsifying agent is an ether.

47. (Previously presented) The modified viral particle of claim 1, further comprising a pharmaceutically acceptable carrier.

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